Panel PCs

FPC 1502 Series

NEMA 4 Sealed 15" Panel PC System; 2 PCI Expansion Slots

FPC 1502-C20/-T: Celeron 2.0GHz/Optional Touchscreen

FPC 1502-P24/-T: Pentium 2.4GHz/Optional Touchscreen

FPC 1502-P30/-T: Pentium 3.06GHz/Optional Touchscreen

USER'S MANUAL

VER. 1.0 • 2004

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Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 FPC 1502 Series Panel PC
- 10 Panel mount clip & screw
- 1 Hardware Bag
- 1 Waterproof Gasket
- 1 Jumper Cap
- 2 Easy stand
- 1 Power Cord (optional)
- 1 CD-ROM for manual (in PDF format) and drivers

If any of these items should be missing or damaged, please contact your distributor or sales representative immediately.

Safety

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.

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c. The equipment has been exposed to moisture.

d. The equipment does not work well, or you cannot get it to work according to the users manual.

e. The equipment has been dropped and damaged.

f. The equipment has obvious signs of breakage.

15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.

16. External equipment intended for connection to signal input/output or other connectors, shall comply with relevant UL / IEC standard (e.g. UL 60950 for IT equipment and UL 2601-1 / IEC 60601 series for medical electrical equipment). In addition, all such combinations – systems – shall comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems. Equipment not complying with UL 2601-1 shall be kept outside the patient environment, as defined in the standard.

FCC Safety

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

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Chapter

1

General Information

Introduction

FPC 1502 Series is the first Pentium®4 industrial board in the CyberResearch Panel PC product line. It features a PGA478 socket that can accommodate Pentium®4 3.06GHz and Celeron® processors, supporting FSB speed of up to 400/533MHz.

Best performance for multimedia solution

The FPC 1502 Series also supports DDR DRAM up to 1GB, 4X AGP, and 5.1 channels audio output. It can provide the strong multimedia functions. Therefore FPC 1502 Series can be broadly implemented in several markets, such as Point of sale, point of information (Kiosk), and gaming markets.

Multi-Function Pentium4 Platform

If you are looking for powerful multi-media applications,

FPC 1502 Series is the one. The FPC 1502 integrates 15" color TFT LCD, Digital I/O, Audio and Ethernet function; while it additioally supports up to 5 USB 2.0 ports, mini PCI, and two PCI slots. With flexible expansion, you get easy access to solutions ranging from Modem, Storage, Sound Card, SCSI card, Audio/Video capture card, Wireless LAN module, to Bluetooth module. Especially for customers whom application is various or changing, FPC 1502 Series reserves more than enough flexibility for future expansion.

FPC 1502 Series provides more CPU options for different applications. You can choose Pentium®4 processor up to 3.06G for high

performance application. Most of all Pentium®4 Level processors are suitable for FPC 1502 Series.

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Features

- 15" TFT XGA (1024 x 768) LCD
- All-in-one SBC support Socket 478 based Intel® Pentium®4 Processor
- Support Intel®Hyper-Threading Technology
- Anti-vibration disk drive bay for HDD
- Water-proof and anti-scratch aluminum front panel with USB port IP-65 certification
- Two free PCI expansion slots
- Digital I/O (8 in, 8 out as Default, up to 16 in or 16 out)
- Resistive Touch screen (Optional)

Specifications

System

- Construction — Heavy-duty steel chassis & IP-65 certified aluminum front panel
- CPU — Socket 478 based Pentium® 4(.13 μ) / Celeron® Processors up to 3.06GHz with FSB 400/533MHz, Hyper-Threading Technology supported
- Memory — 184 pin DIMM x 1, support DDR 200/266/333MHz up to 1GB
- Display — 15" XGA color TFT LCD
- LCD / CRT controller — Intel® i845GV, AGP 4X
- Network (LAN) — Intel® 82562 10/100 Base-T Ethernet controller
- I/O Chipset — 3 serial ports: 2 x RS-232, 1 x

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RS-232/422/485 (COM 4 is reserved for touch screen)

1 parallel port (supports ECP/EPP)

1 PS/2 mouse and keyboard port

1 VGA port

Mic in, Line in, Line out, S/P DIF 5.1 channels audio port

GPIO: 16 in or 16 out

- Storage Disk Drive — Anti-vibration 2.5"HDD, Slim FDD and Slim CD-ROM
- USB ports — 4 USB 2.0 ports on rear chassis; 1 USB 2.0 port on front panel (Lockable by BIOS)

Because of USB chipset limitation, front USB port and Card reader USB interface are linked together, when user "disable" front USB port （USB Port 3 controller）, the card reader must be forced to disable at same time.

- Front Panel — PMS 2965C (Dark Blue)
- Mounting — Panel Mount, VESA

75/100mm holes

- Expansion slots 2 PCI slots

  1 Mini PCI socket

  6in1 card reader.

  Because of drivers bug, after successfully installing card reader drivers, two vanity disk drives appear: XD and Flash. Please ignore the two useless disk drives.

  Support CompactFlash® (Type I/II), Secure Digital, Multi Media Card, Memory Stick (PRO) and Smart Media

- Power Supply Universal 250W switching power Supply with Active PFC
- OS support Windows 98SE, Windows 2000, Windows XP
- Dimension (W x H x D) 444 x 336 x 144mm (17.5" x 13.2" x 5.7")
- Carton Dimension (W x H x D) 555 x 460 x 355mm (21.9" x 18.1" x 14")
- Gross Weight 15KG (33.1 lbs)

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Power Supply

- AC input 250W (standard offer):
  - ✓ Output rating: 250W
  - ✓ Input voltage:

    100VAC~240VAC@47~63Hz
  - ✓ Output voltage:

    +3.3V@16A, +5V@25A, +12V@13A,
    +5VSB@2A, -5V@0.3A, -12V@0.8A
- 24V DC input:
  - ✓ Output rating: 300W (Maximum)
  - ✓ Input voltage: 19VDC~36VDC@30A

    Maximum
  - ✓ Output voltage:

    +5V@25A, +12V@22A,

    +3.3V@20A, -5V@0.8A, -12V@1A,
    5VSB@1.5A

LCD Specifications

Display type	15" color TFT LCD
Max. Resolution	1024 x 768
Max. Colors	256K
Dot size (mm)	0.297 x 0.297
Luminance (cd/m²)	250 (TYP)
Viewing angle	150°(H)
	145°(V)
Back Light MTBF (Hrs)	30,000

Touch screen (Optional)

- Type 8-wire, analog resistive
- Resolution 2048 x 2048
- Light transmission >75%
- Lifetime 1 million activations
- OS support Windows 98SE, Windows 2000, Windows XP

Environment Specifications

- Operating temperature 0 ℃ ~50 ℃ (32~122 ℉)
- Storage temperature -20 ℃ ~60 ℃ (-4~140 ℉)
- Operating humidity 10 to 90% @35 ℃, non-condensing

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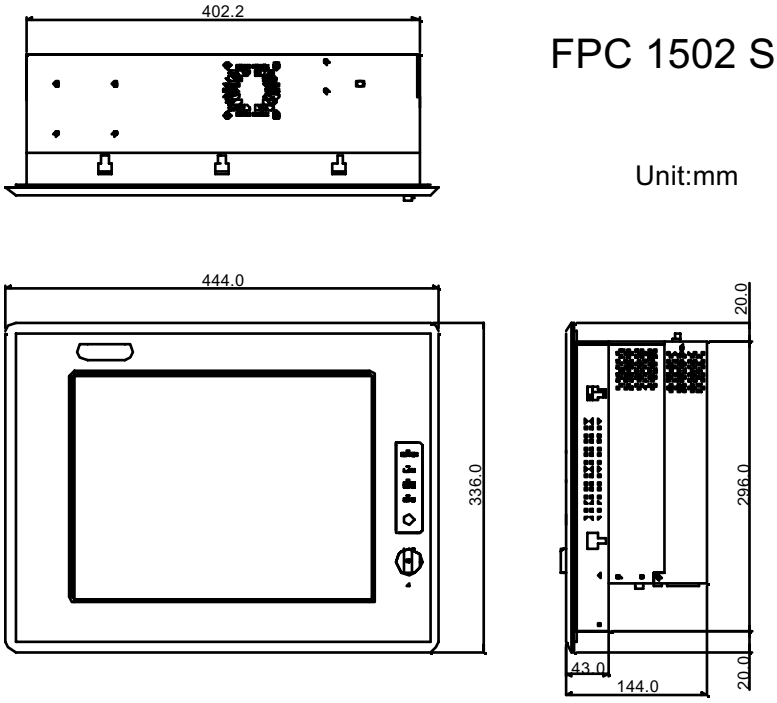
- Vibration 1G / 5~500Hz (Random / operation)
- Shock 15G peak acceleration (11 msec. duration) / operation
- EMC CE/FCC Class B

Dimensions



FPC 1502 Series

Unit:mm

Cutout Size:405*299 mm

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Chapter

2

Hardware Installation

Safety Precautions

Warning!

Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!

Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

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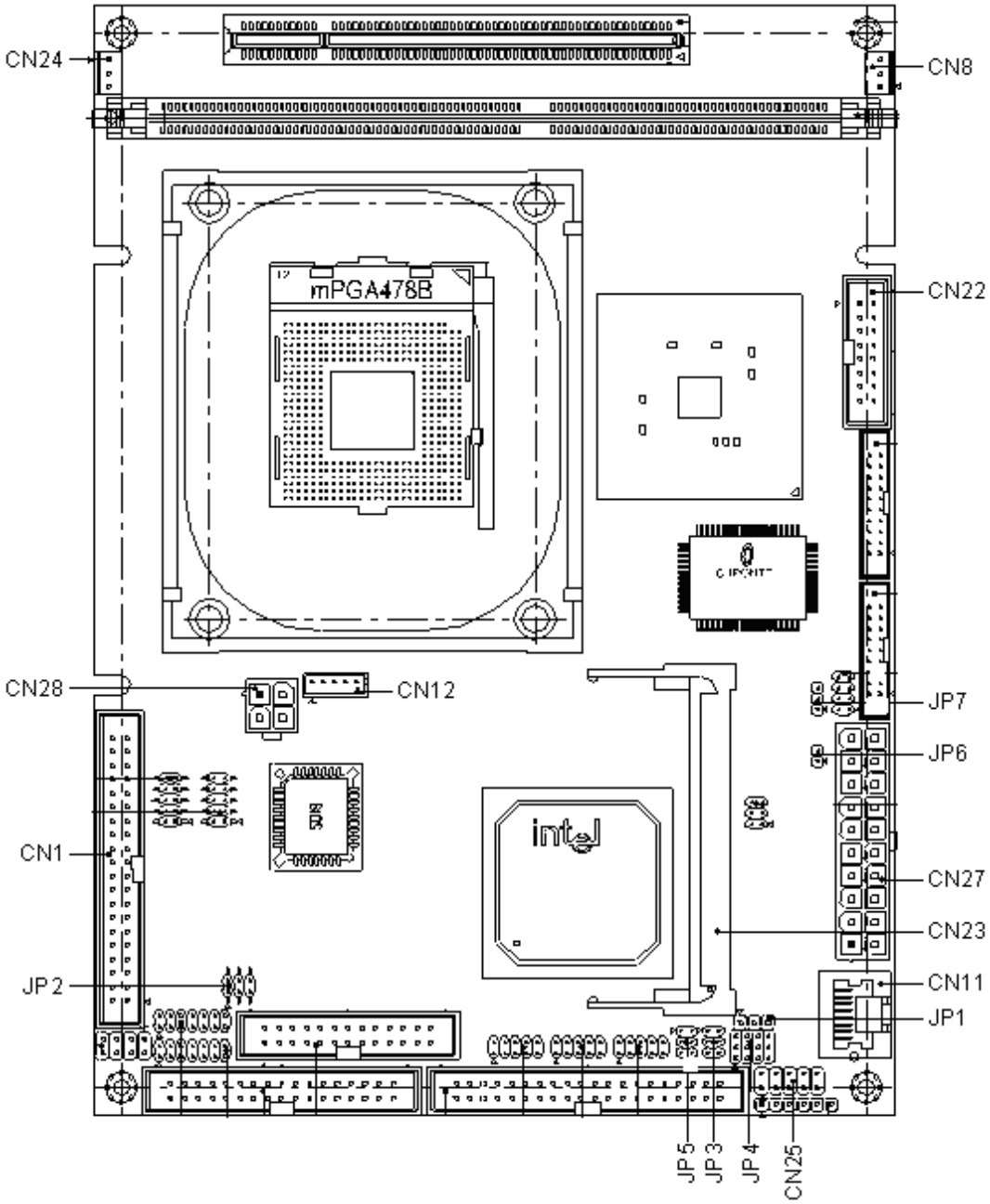
Location of Connectors and Jumpers

Component Side



List of Jumpers

There are a number of jumpers in the board that allow you to configure your system to suit your application.

The table below shows the function of each jumper in the board:

Jumpers

Label	Function
JP1	Clear CMOS
JP2	Audio Out Select
JP3	COM2 Ring/+5V/+12V Selection
JP4	COM2 RS-232/422/485 Selection
JP5	COM2 RS-232/422/485 Selection
JP6	ATX Power simulate AT Power
JP7	LCD Voltage Selection

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List of Connectors

There are a number of connectors in the board that allow you to configure your system to suit your application. The table below shows the function of each connector in the board:

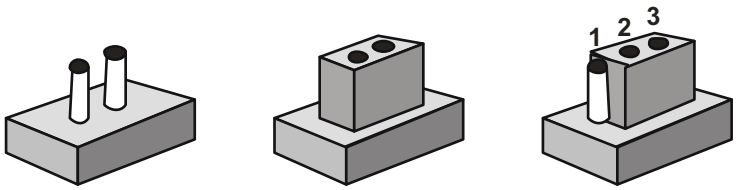
Connectors

Label	Function
CN1	EIDE HDD Connector
CN8,CN24	Fan Connector
CN11	10/100Base-Tx Ethernet Connector
CN12	Option PME Connector
CN22	VGA Display Connector
CN23	MINI PCI SLOT
CN25	Front Panel
CN27	ATX Power Connector
CN28	ATX Power 12V Connector

Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip.

To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

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Clear CMOS (JP1)

Warning:
To avoid damaging the computer, always turn off the power supply before setting " Clear CMOS." Before turning on the power supply, set the jumper back to "Normal."

JP1	Function
1-2	Active (Default)
2-3	Clear

Audio Out Select (JP2)

JP2	Function
1-3, 2-4	W/O Amplifier (Default)
3-5, 4-6	W/ Amplifier

COM2 Ring/+5V/+12V Selection (JP3)

JP3	Function
1-2	+12V
3-4	+5V
5-6	Ring (Default)

COM2 RS-232/422/485 Select (JP4&JP5)

JP4	JP5	Function
1-2, 4-5, 7-8, 10-11	1-2	RS-232 (Default)
2-3, 5-6, 8-9, 11-12	3-4	RS-422
2-3, 5-6, 8-9, 11-12	5-6	RS-485

ATX Power simulate AT Power (JP6)

JP6	Function
1-2 ON	ATX Power Simulate AT Power
1-2 OFF	ATX Standard (Default)

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IDE Connector (CN1)

Pin	Signal	Pin	Signal
1	IDE RESET	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N.C
21	REQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	IO READY	28	GND
29	DACK	30	GND
31	IRQ14	32	N.C
33	ADDR1	34	UDMA DETECT
35	ADDR0	36	ADDR2
37	CS#1	38	CS#3
39	LED	40	GND

Fan Connector (CN8&CN24)

Pin	Signal
1	GND
2	+5V
3	FAN SPEED SENSE

10/100Base-Tx Ethernet Connector (CN11)

Pin	Signal	Pin	Signal
1	TX+	9	N.C
2	TX-	10	N.C
3	RX+	11	GND
4	N.C	12	GND
5	N.C	13	N.C
6	RX-	14	N.C
7	N.C	15	N.C
8	N.C	16	N.C

Option PME Connector (CN12)

Pin	Signal	Pin	Signal
1	+5VSB	2	GND
3	#PME	4	SMB_DATA
5	SMB_CLK		

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Floppy Connector (CN13)

Pin	Signal	Pin	Signal
1	GND	2	REDWC
3	GND	4	N.C
5	GND	6	DS1
7	GND	8	INDEX
9	GND	10	MOTOR A
11	GND	12	DRIVE SELECT B
13	GND	14	DRIVE SELECT A
15	GND	16	MOTOR B
17	GND	18	DIR
19	GND	20	STEP
21	GND	22	WRITE DATA
23	GND	24	WRITE GATE
25	GND	26	TRACK
27	GND	28	WRITE PROTECT
29	GND	30	READ DATA
31	GND	32	SIDE1
33	GND	34	DISK CHANGE

LPT Port Connector (CN14)

Pin	Signal	Pin	Signal
1	STROBE	2	AFD
3	PTD0	4	ERROR

5	PTD1	6	INIT
7	PTD2	8	SLIN
9	PTD3	10	GND
11	PTD4	12	GND
13	PTD5	14	GND
15	PTD6	16	GND
17	PTD7	18	GND
19	ACK	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SELECT	26	N.C

COM1~3 RS-232/422/485 Serial Port Connector (CN16)

Only COM1 support "Wake on Ring" function.

Pin	Signal	Pin	Signal
1	DCD1	2	DSR1
3	RXD1	4	RTS1
5	TXD1	6	CTS1
7	DTR1	8	RI1
9	GND	10	N.C
11	DCD2(422TXD-/485DATA-)	12	DSR2 (422RXD+)
13	RXD2(422TXD+/485DATA+)	14	RTS2 (422RXD-)
15	TXD2	16	CTS2
17	DTR2	18	RI2
19	GND	20	N.C
21	DCD3	22	DSR3

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23	RXD3	24	RTS3
25	TXD3	26	CTS3
27	DTR3	28	RI3
29	GND	30	N.C
31	DCD4	32	DSR4
33	RXD4	34	RTS4
35	TXD4	36	CTS4
37	DTR4	38	RI4
39	GND	40	N.C

PS2 Keyboard/Mouse Connector (CN17)

Pin	Signal
1	KB_DATA
2	KB_CLK
3	GND
4	+5V
5	MS_DATA
6	MS_CLK

Digital I/O Port

Pin	Signal	I/O Address Setting
1	Digital-IN / OUT	841H
2	Digital-IN / OUT	841H
3	Digital-IN / OUT	841H
4	Digital-IN / OUT	841H
5	GND	
6	GND	
7	Digital-IN / OUT	841H
8	Digital-IN / OUT	841H
9	Digital-IN / OUT	841H
10	Digital-IN / OUT	841H
11	GND	
12	GND	
13	Digital-IN / OUT	801H
14	Digital-IN / OUT	801H
15	Digital-IN / OUT	801H
16	Digital-IN / OUT	801H
17	GND	
18	GND	
19	Digital-IN / OUT	801H
20	Digital-IN / OUT	801H
21	Digital-IN / OUT	801H
22	Digital-IN / OUT	801H
23	+5V	
24	+5V	
25	+5V	

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The pin definitions and registers mapping are illustrated below:

Address: 841H

4 in / 4 out

Pin1	Pin2	Pin3	Pin4	Pin7	Pin8	Pin9	Pin10
GPI 27	GPI 26	GPI 25	GPI 24	GPO 23	GPO 22	GPO 21	GPO 20
MSB							LSB

8 in

Pin1	Pin2	Pin3	Pin4	Pin7	Pin8	Pin9	Pin10
GPI 27	GPI 26	GPI 25	GPI 24	GPI 23	GPI 22	GPI 21	GPI 20
MSB							LSB

8 out

Pin1	Pin2	Pin3	Pin4	Pin7	Pin8	Pin9	Pin10
GPO 27	GPO 26	GPO 25	GPO 24	GPO 23	GPO 22	GPO 21	GPO 20
MSB							LSB

Address: 801H

4 in/ 4 out

Pin13	Pin14	Pin15	Pin16	Pin19	Pin20	Pin21	Pin22
GPI 27	GPI 26	GPI 25	GPI 24	GPO 23	GPO 22	GPO 21	GPO 20
MSB							LSB

8 in

Pin13	Pin14	Pin15	Pin16	Pin19	Pin20	Pin21	Pin22
GPI 27	GPI 26	GPI 25	GPI 24	GPI 23	GPI 22	GPI 21	GPI 20
MSB							LSB

8 out

Pin13	Pin14	Pin15	Pin16	Pin19	Pin20	Pin21	Pin22
GPI 27	GPI 26	GPI 25	GPI 24	GPI 23	GPI 22	GPI 21	GPI 20
MSB							LSB

VGA Display Connector (CN22)

Pin	Signal	Pin	Signal
1	Red	9	GND
2	VCC	10	HSYNC
3	Green	11	GND
4	GND	12	VSYNC
5	Blue	13	GND
6	N.C	14	SCL
7	N.C	15	GND
8	SDA	16	N.C

ATX Power Connector (CN27)

Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND

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7	GND	17	GND
8	POWER OK	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

ATX Power 12V Connector (CN28)

Pin	Signal	Pin	Signal
1	GND	2	GND
3	+12V	4	+12V

FDD & CD-ROM Installation

We will guide you how to lock FDD and CD-ROM together. Please see the detail as follows.

Step 1: Plug in FDD cable

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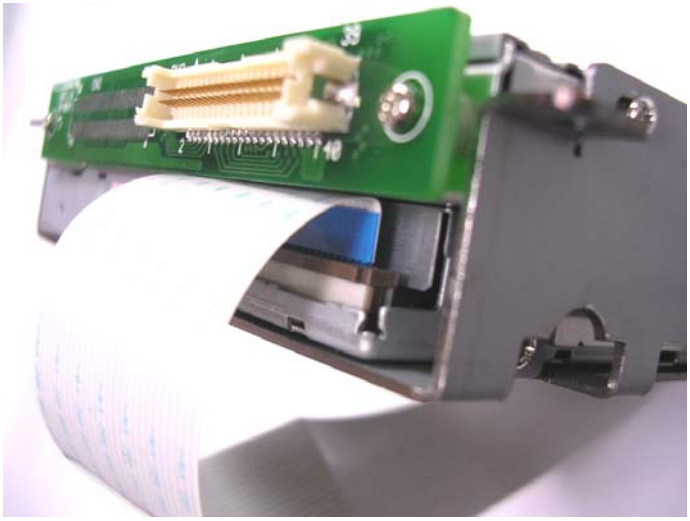
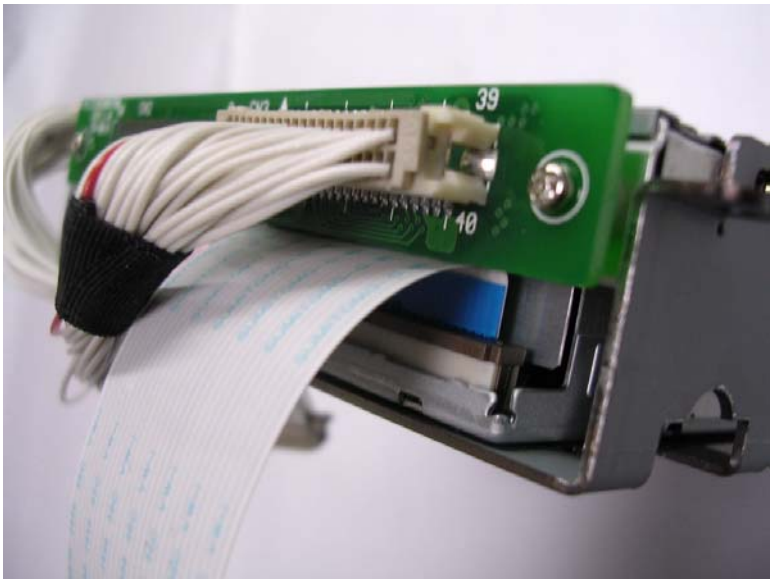
Step 2: Fasten the FDD and CD-ROM together with two brackets on the both sides symmetrically.

Step 3: Fasten the transferring bar with a pair of screws on the back of the CD-ROM.



Step 4: Plug in CD-ROM Cable



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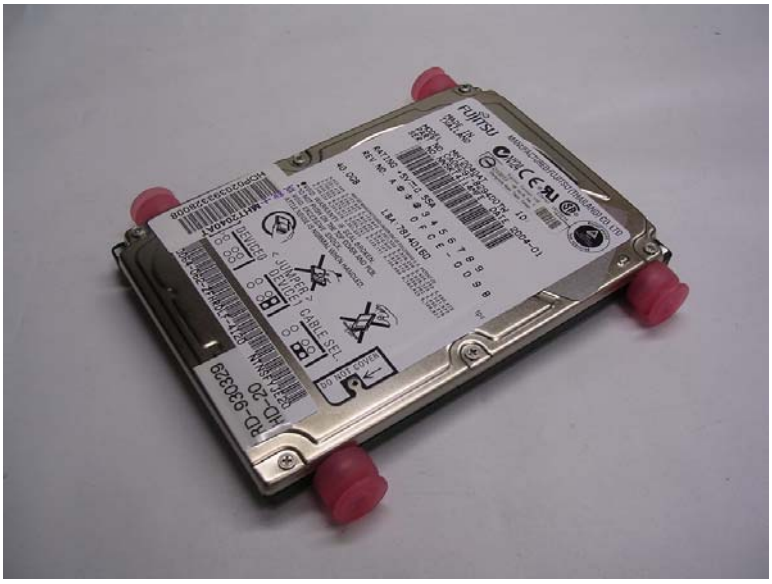
HDD Installation

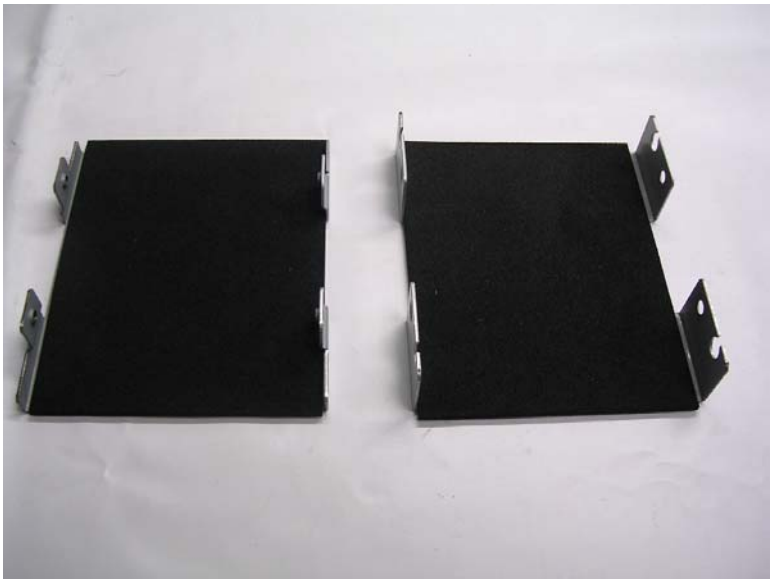
In the following, we will guide you how to install HDD. Make sure that all parts are provided before you start the installation.

Step 1: Lock with the screws as the illustration shown.

Step 2: Cover the screws with four pieces of anti-vibration rubbers



Step 3: There' re two pieces of iron surfaces as the illustration shown.



Step 4: Locate the HDD on one piece of the iron surface and fasten it with the screws.

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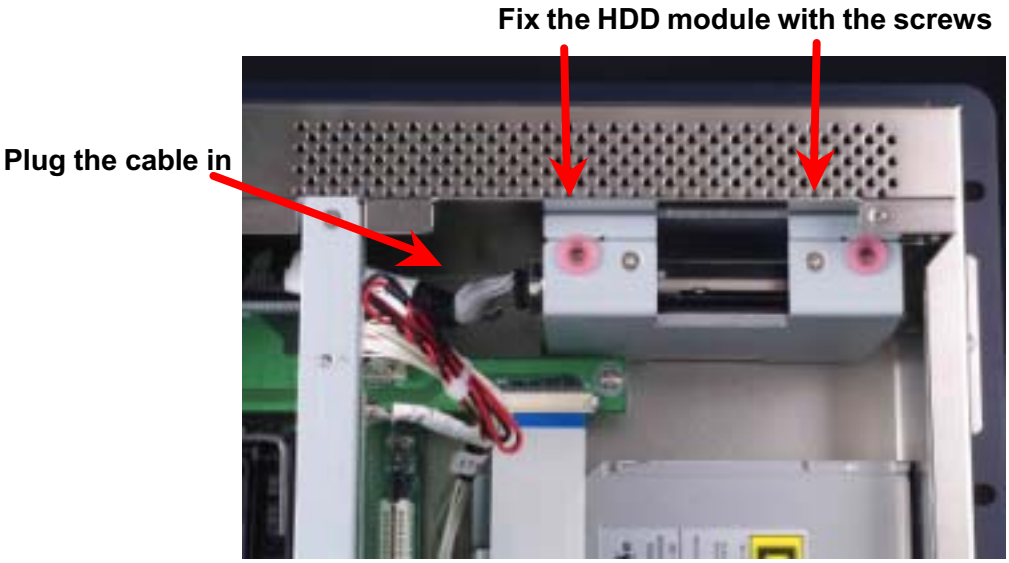
Step 5: Cover it with another piece of iron surface and lock it with the screws.

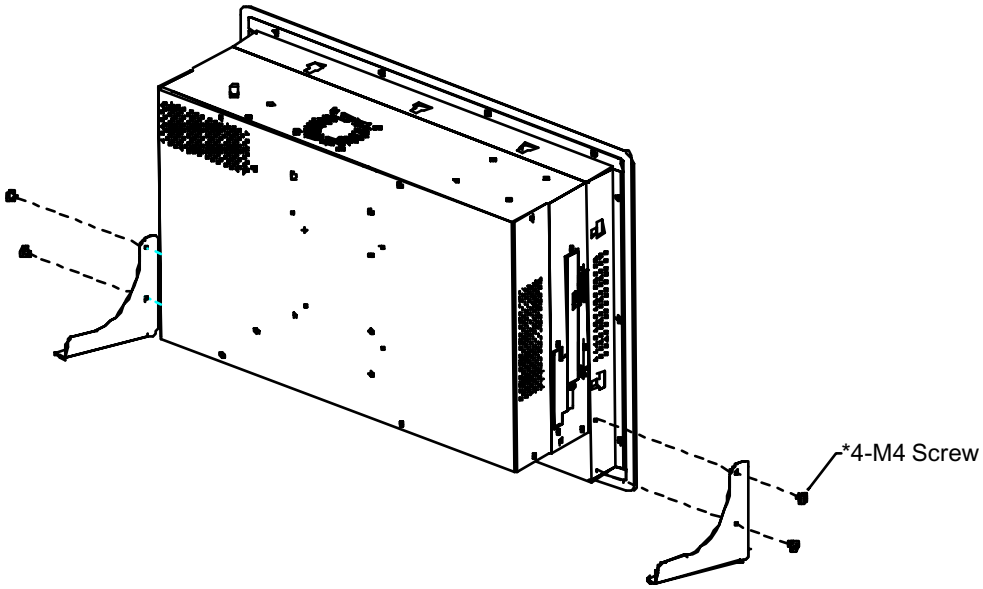
Step 6: Fix the HDD module into the FPC 1502 Series chassis and plug the cable in.



Easy Stand Installation

Two L-shaped easy stands accompany the product. Refer to the following illustration to install them.

1. Affix the L-shaped easy stands with the screws on both sides of the monitor. See the illustration below:



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Panel Mount Kit Installation

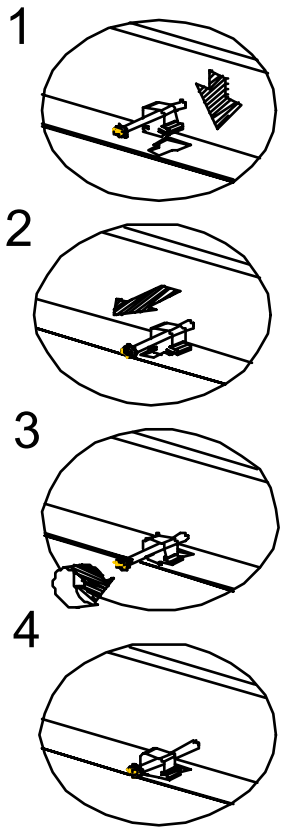
Some screw sets will come with the product for user to mount the monitor on the wall. See the steps below along with the illustration.

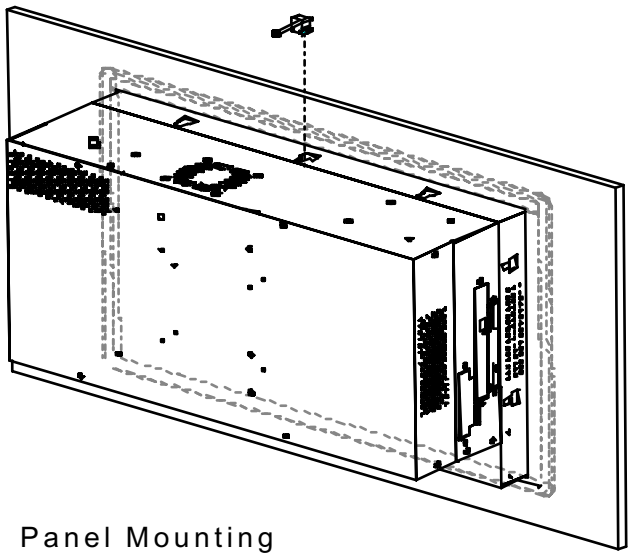
Step 1: Bore the screw into the screw nut.

Step 2: Locate the s crew set into the hole around the monitor as the right illustration and pull it back to lock the screw set on the hole.

Step 3: Turn the screw around to make it tight until it is closed to the wall.

Step 4: Lock the monitor to the wall with the screw set which mean you' ve done a good job.



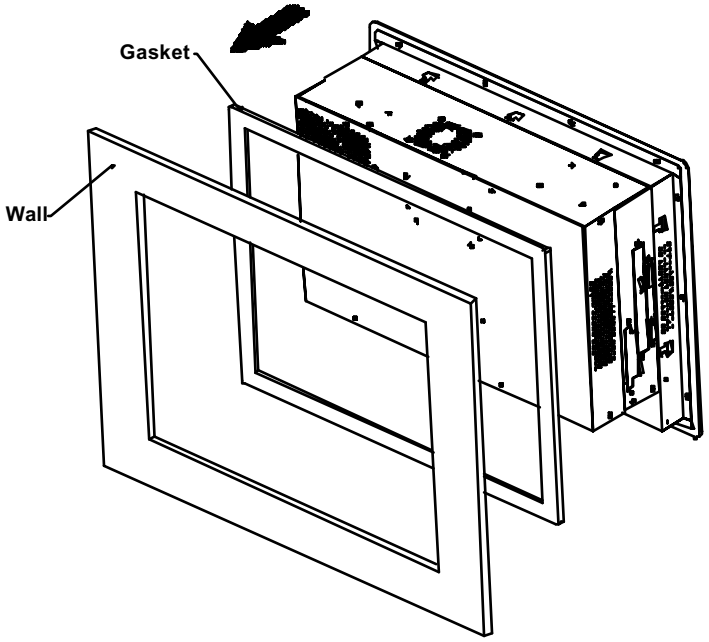


Panel Mounting

Waterproof Gasket Installation

The following illustration shows you how to install the waterproof gasket behind the monitor set.

1. Install the gasket behind the monitor set.
2. Install the monitor set on the wall.



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Chapter

3

BIOS Installation

System test and initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

Press <F1> to RESUME

Write down the message and press the F1 key to continue the boot up sequence.

System configuration verification

These routines check the current system configuration against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

1. You are starting your system for the first time
2. You have changed the hardware attached to your system
3. The CMOS memory has lost power and the configuration

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information has been erased.

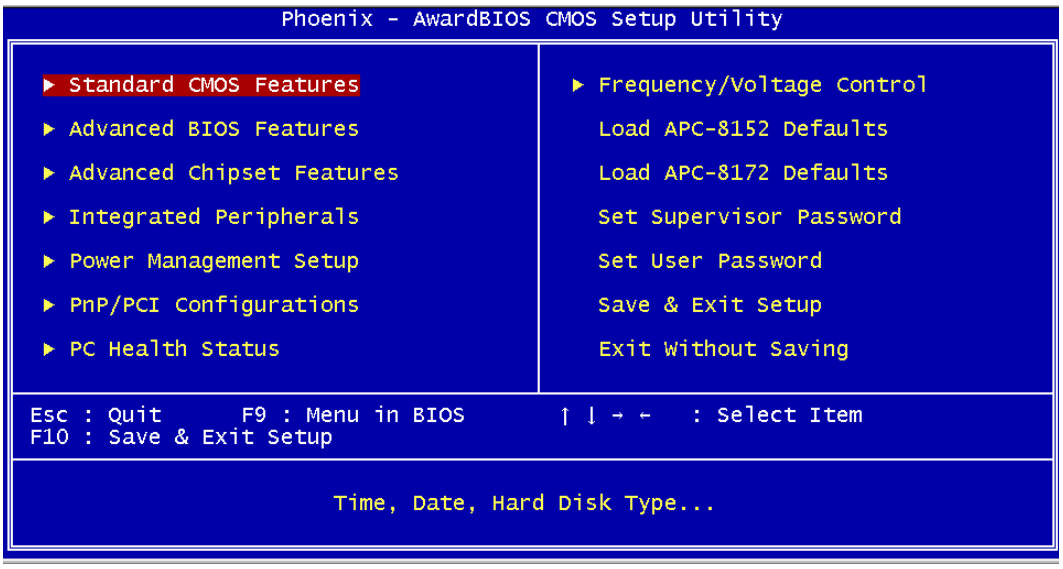
The FPC 1502 Series CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the co mplete unit when it finally runs down.

Award BIOS Setup

Awards BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering setup

Power on the computer and press <Del> immediately. This will allow you to enter Setup.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP/PCI Configurations
PC Health Status
Frequency/Voltage Control
Load APC-8152 Defaults
Load APC-8172 Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Time, Date, Hard Disk Type...

Standard CMOS Features

Use this menu for basic system configuration. (Date, time, IDE, etc.)

Advanced BIOS Features

Use this menu to set the advanced features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals. (Primary slave, secondary slave, keyboard, mouse etc.)

Power Management Setup

Use this menu to specify your settings for power management. (HDD power down, power on by ring, KB wake up, etc.)

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This menu allows you to set the shutdown temperature for your system.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/ voltage control.

Load FPC 1502 Series Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

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Set Supervisor/User Password

Use this menu to set Supervisor/User Passwords.

Save and Exit Setup

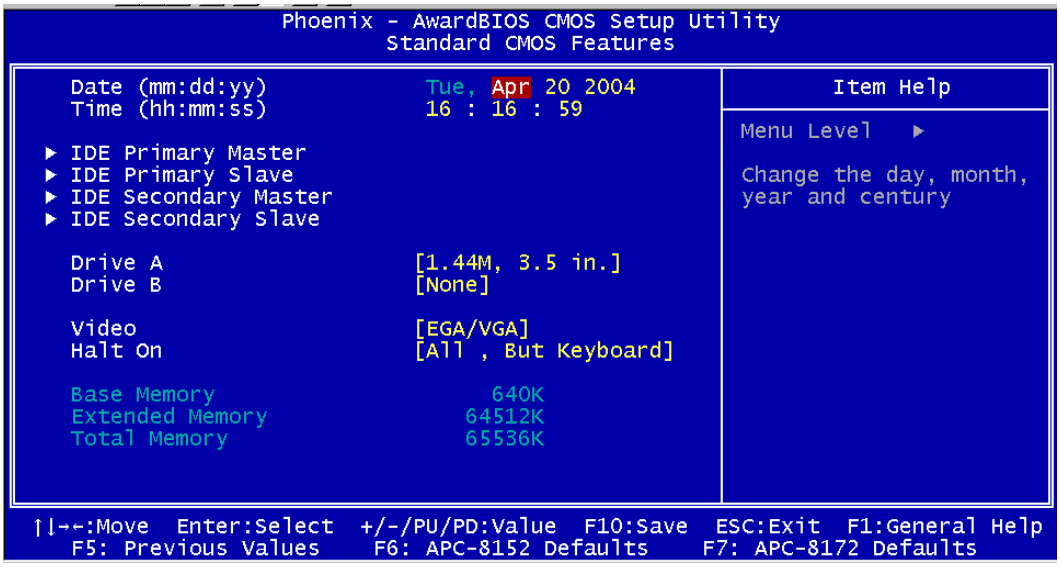
Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Features

When you choose the Standard CMOS Features option from the INITIAL SETUP SCREEN menu, the screen shown below is displayed. This standard Setup Menu allows users to configure system components such as date, time, hard disk drive, floppy drive and display. Once a field is highlighted, on-line help information is displayed in the right box of the Menu screen.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Tue, Apr 20 2004
Time (hh:mm:ss) 16 : 16 : 59
IDE Primary Master
IDE Primary Slave
IDE Secondary Master
IDE Secondary Slave
Drive A [1.44M, 3.5 in.]
Drive B [None]
Video [EGA/VGA]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 64512K
Total Memory 65536K
Item Help
Menu Level ▶
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

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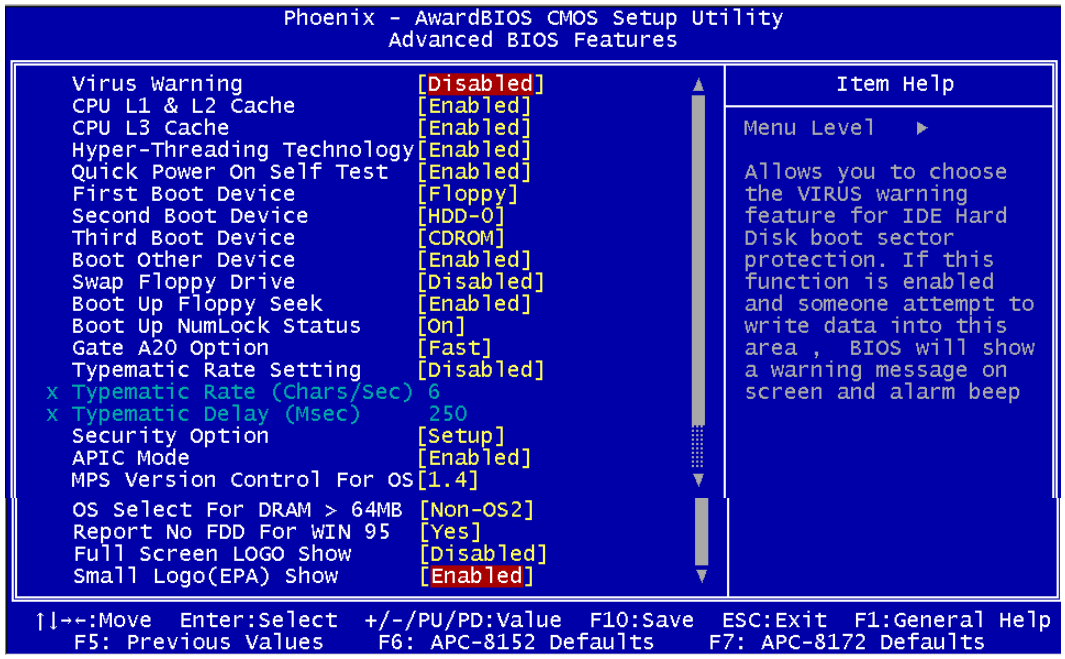
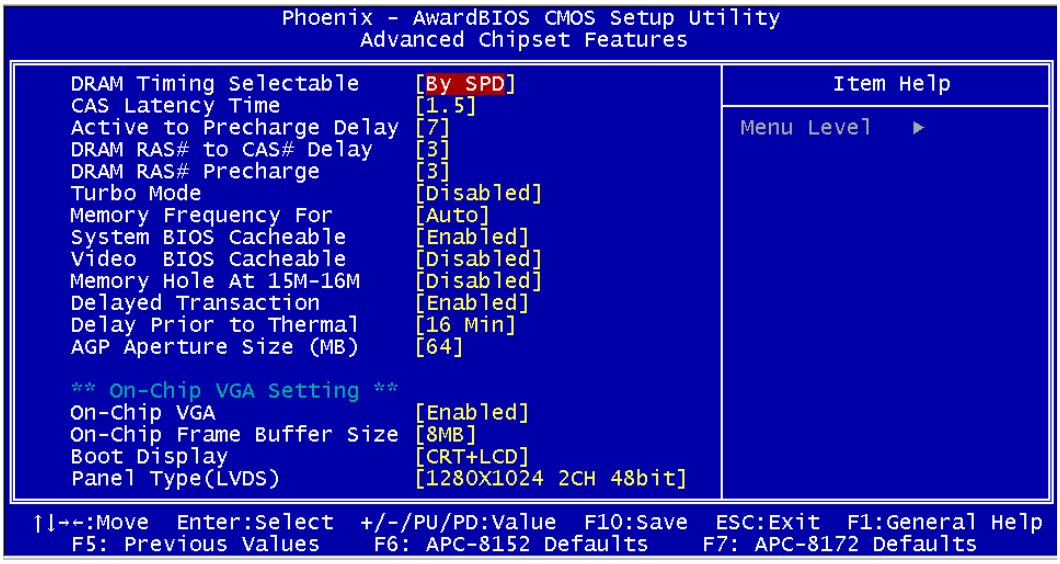
Advanced BIOS Features

By choosing the Advanced BIOS Features option from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
CPU L3 Cache [Enabled]
Hyper-Threading Technology [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [Floppy]
Second Boot Device [HDD-0]
Third Boot Device [CDROM]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
MPS Version Control For OS [1.4]
OS Select For DRAM > 64MB [Non-OS2]
Report No FDD For WIN 95 [Yes]
Full Screen LOGO Show [Disabled]
Small Logo(EPA) Show [Enabled]
Item Help
Menu Level ▶
Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area , BIOS will show a warning message on screen and alarm beep
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

Advanced Chipset Features

By choosing the Advanced Chipset Features option from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Timing Selectable [By SPD]
CAS Latency Time [1.5]
Active to Precharge Delay [7]
DRAM RAS# to CAS# Delay [3]
DRAM RAS# Precharge [3]
Turbo Mode [Disabled]
Memory Frequency For [Auto]
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
Memory Hole At 15M-16M [Disabled]
Delayed Transaction [Enabled]
Delay Prior to Thermal [16 Min]
AGP Aperture Size (MB) [64]
** On-Chip VGA Setting **
On-Chip VGA [Enabled]
On-Chip Frame Buffer Size [8MB]
Boot Display [CRT+LCD]
Panel Type(LVDS) [1280X1024 2CH 48bit]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

Attention:

The LCD signal may be turned off automatically after the VGA driver is installed, please press "Ctrl + Alt + F3" to enable LCD signal again.

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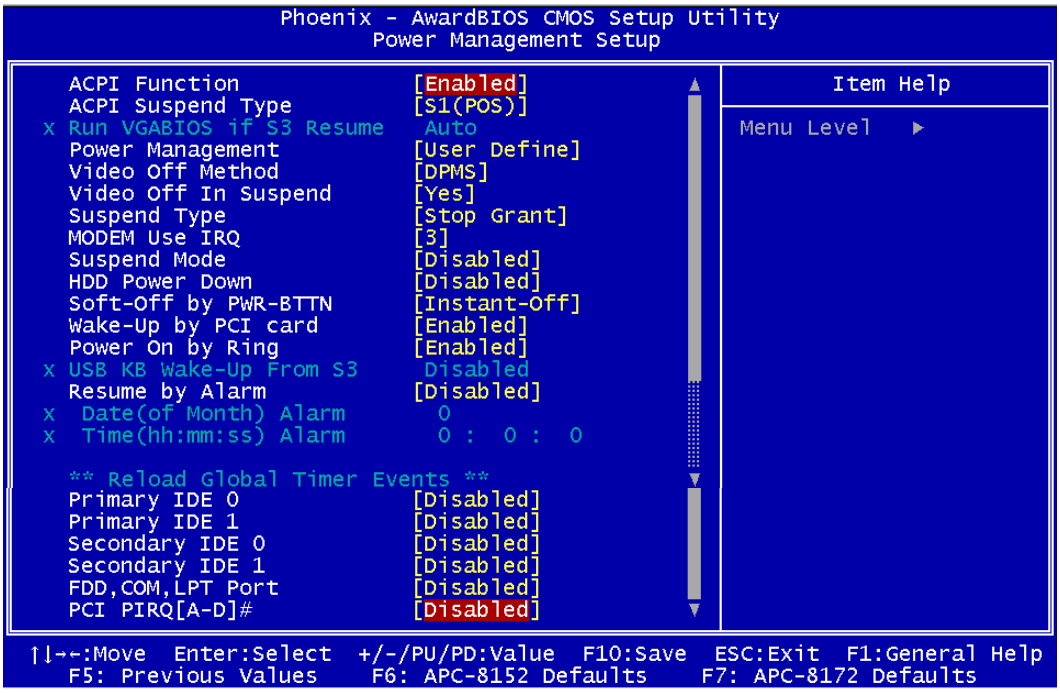
Integrated Peripherals

By choosing the Integrated Peripherals from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
On-Chip Primary PCI IDE [Enabled]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Primary Master UDMA [Auto]
IDE Primary Slave UDMA [Auto]
On-Chip Secondary PCI IDE [Enabled]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
IDE Secondary Master UDMA [Auto]
IDE Secondary Slave UDMA [Auto]
USB Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Port 3 Controller [Enabled]
AC97 Audio [Auto]
Init Display First [Onboard/AGP]
ICH4 LAN Control [Enabled]
OptionROM Control [Enabled]
IDE HDD Block Mode [Enabled]
POWER ON Function [BUTTON ONLY]
KB Power ON Password [Enter]
Hot Key Power ON [Ctrl-F1]
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
UART Mode Select [Normal]
UR2 Duplex Mode [Half]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
ECP Mode Use DMA [3]
PWRON After PWR-Fail [On]
Onboard Serial Port 3 [3E8]
Serial Port 3 Use IRQ [IRQ10]
Onboard Serial Port 4 [2E8]
Serial Port 4 Use IRQ [IRQ11]
Digital I/O 1 (801H) [4(In) 4(Out)]
Digital I/O 2 (841H) [4(In) 4(Out)]
Item Help
Menu Level ▶
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

Power management Setup

By choosing the Power Management Setup from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI Function [Enabled]
ACPI Suspend Type [S1(POS)]
x Run VGABIOS if S3 Resume Auto
Power Management [User Define]
Video Off Method [DPMS]
Video Off In Suspend [Yes]
Suspend Type [Stop Grant]
MODEM Use IRQ [3]
Suspend Mode [Disabled]
HDD Power Down [Disabled]
Soft-Off by PWR-BTTN [Instant-Off]
Wake-Up by PCI card [Enabled]
Power On by Ring [Enabled]
x USB KB Wake-Up From S3 Disabled
Resume by Alarm [Disabled]
x Date(of Month) Alarm 0
x Time(hh:mm:ss) Alarm 0 : 0 : 0
** Reload Global Timer Events **
Primary IDE 0 [Disabled]
Primary IDE 1 [Disabled]
Secondary IDE 0 [Disabled]
Secondary IDE 1 [Disabled]
FDD,COM,LPT Port [Disabled]
PCI PIRQ[A-D]# [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

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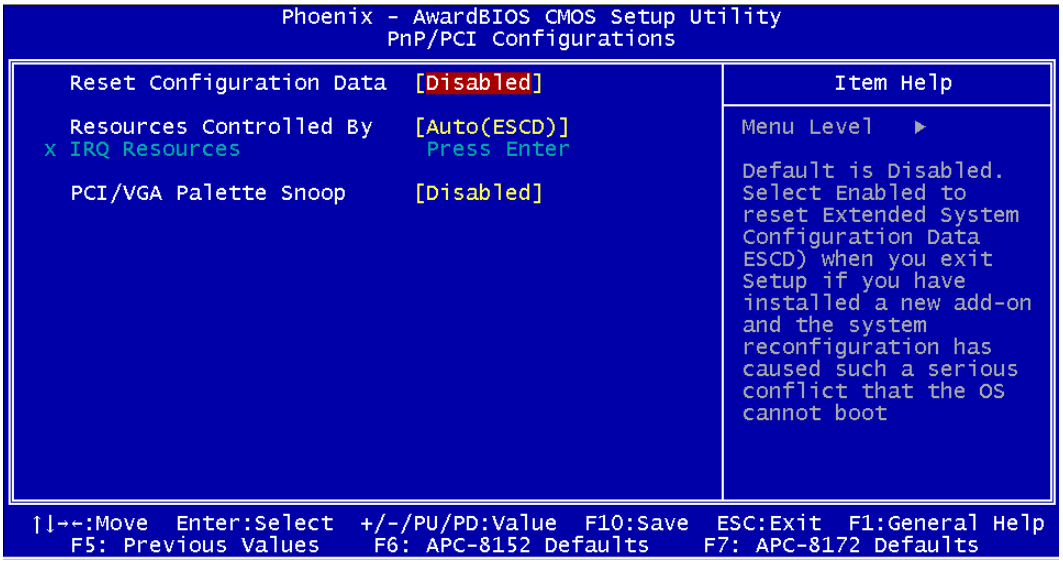
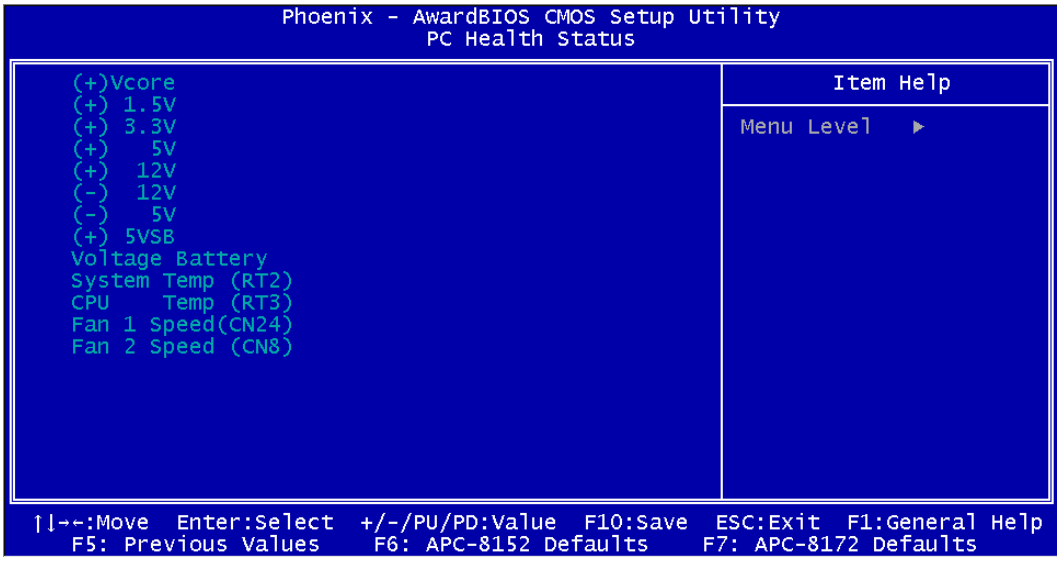
PnP/PCI configuration

By choosing the PnP/PCI configurations from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.


Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Item Help
Menu Level ▶
Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

PC Health Status

By choosing the PC Health Status from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.



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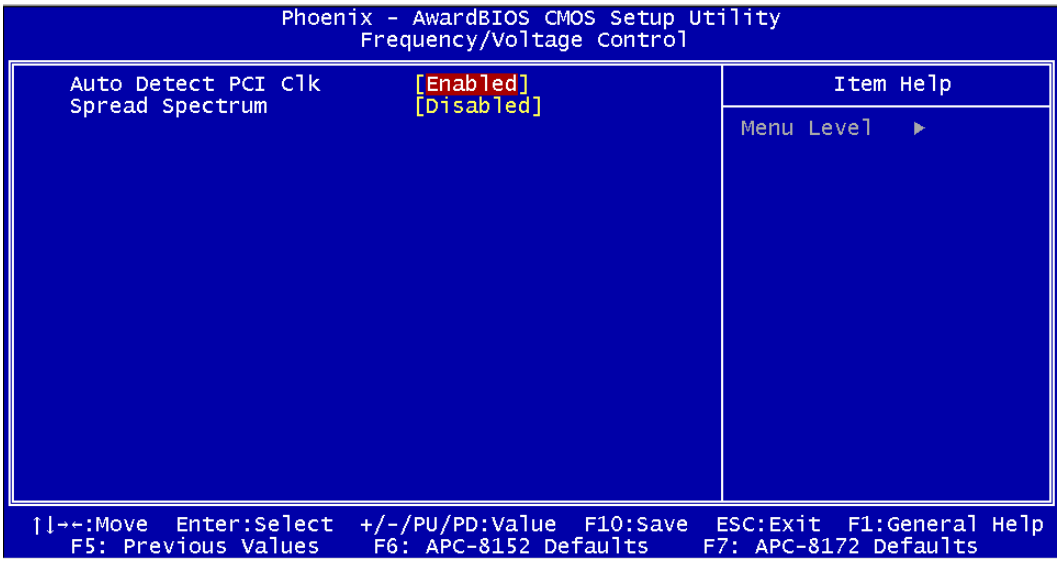
Frequency/Voltage control

By choosing the Frequency/Voltage Control from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the FPC 1502 Series.

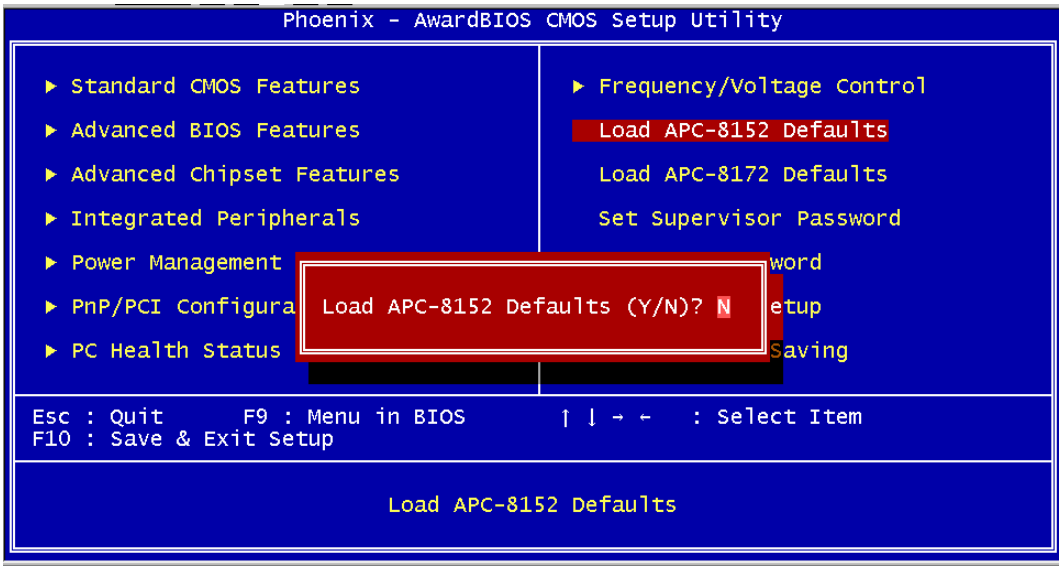

Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control
Auto Detect PCI Clk [Enabled]
Spread Spectrum [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: APC-8152 Defaults F7: APC-8172 Defaults

Load FPC 1502 Series Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

To load the FPC 1502 defaults, select Load APC-8152 Defaults.

Selecting "Y" loads the BIOS default values for the most stable, minimal performance system operations.



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Set Supervisor/User Password

You can set either SUPERVISOR or USER PASSWORD, or both of them. The difference between the two is that the supervisor password allows unrestricted access to enter and change the options of the setup menus, while the user password only allows entry to the program, but not modify options.

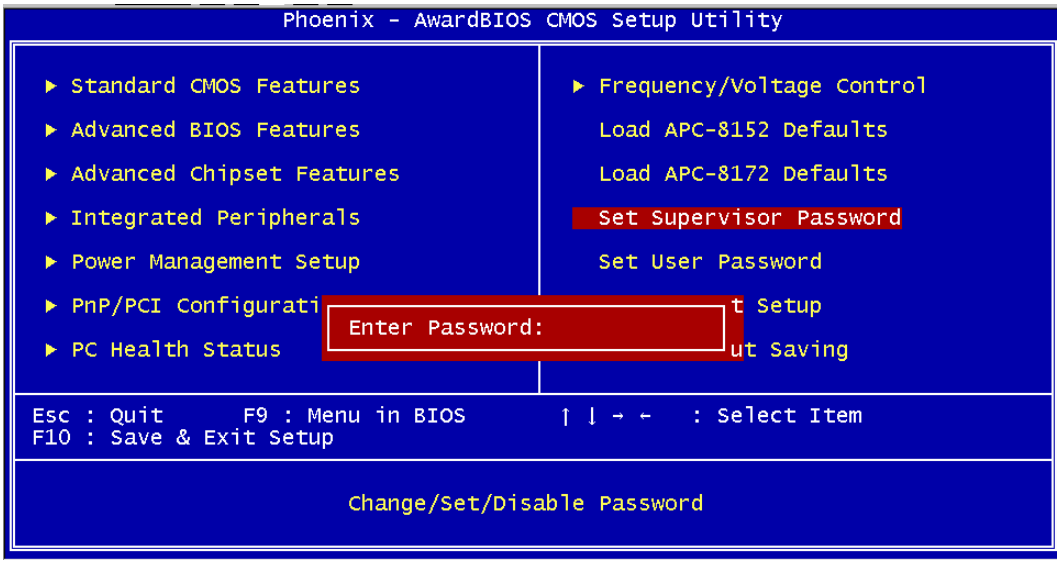
To abort the process at any time, press Esc.

In the Security Option item in the BIOS Features Setup screen, select System or Setup:

System Enter a password each time the system boots and whenever you enter Setup.

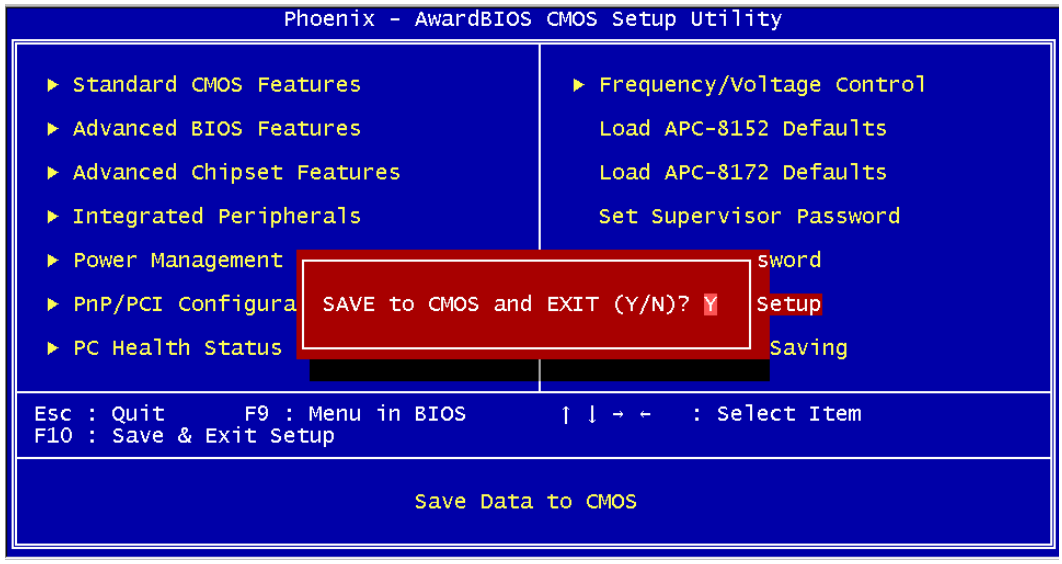
Setup Enter a password whenever you enter Setup.

NOTE: To clear the password, simply press Enter when asked to enter a password. Then the password function is disabled.



Save & Exit Setup

If you select this option and press <Enter>, the values entered in the setup utilities will be recorded in the chipset' s CMOS memory. The microprocessor will check this every time you turn on your system and compare this to what it finds as it checks the system. This record is required for the system to operate.


Phoenix - AwardBIOS CMOS Setup Utility
▶ Standard CMOS Features
▶ Advanced BIOS Features
▶ Advanced Chipset Features
▶ Integrated Peripherals
▶ Power Management
▶ PnP/PCI Configura
▶ PC Health Status
▶ Frequency/Voltage Control
Load APC-8152 Defaults
Load APC-8172 Defaults
Set Supervisor Password
sword
Setup
Saving
SAVE to CMOS and EXIT (Y/N)? Y
Esc : Quit F9 : Menu in BIOS ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup
Save Data to CMOS

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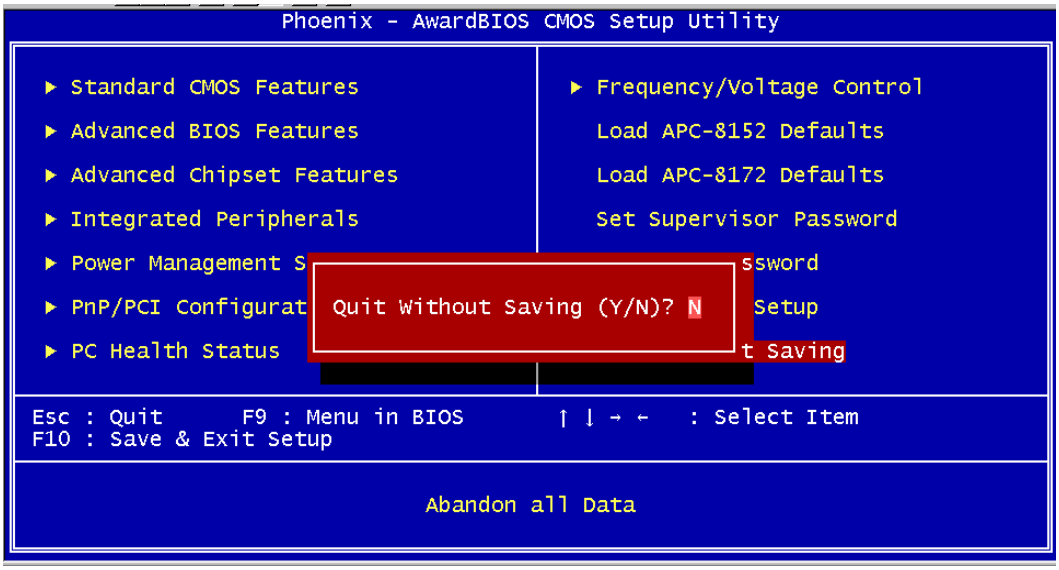
Exit without saving

Selecting this option and pressing <Enter> allows you to exit the Setup program without recording any new value or changing old one.



Limitations

1. Due to Intel chipset limitation, when CMOS was set up to "LCD + CRT", the LCD display will not support full-screen appearance.
2. Because of USB chipset limitation, front USB port and Card reader USB interface are linked together, when user "disable" front USB port （USB Port 3 controller）, the card reader must be forced to disable at same time.

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Chapter

4

Driver Installation

There are several installation ways depending on the driver package under different Operating System application.

Please follow the sequence below to install the drivers:

Step 1 – Install Intel INF Update For Windows 9x-XP Driver

Step 2 – Install Intel 845G Graphic Driver

Step 3 – Install Intel Application Accelerator for Windows 9x-XP Driver

Step 4 – Install Intel LAN Driver V6.4

Step 5 – Install Realtek AC97 codec Driver

Step 6 – Card Reader Driver

Step 7 – Touch screen Driver

USB 2.0 Drivers are available for download using Windows Update for both Windows XP and Windows 2000. For additional information regarding USB 2.0 support in Windows XP and Windows 2000, please visit www.microsoft.com/hwdev/usb/.

For installation procedures of each driver, you may see the details in the following.

Installation

Applicable for Windows 98SE / 2000 / XP

1. From the CD-ROM, select the desired component Driver folder, and then select the desired Operation System folder to double click on the Setup.exe icon. A driver installation screen will appear.

   Notice:

   1. **Take VGA driver installation under Windows 98 for example, choose the corresponding folder depending on your OS**
   2. **When installing the VGA driver under Windows 98, the**

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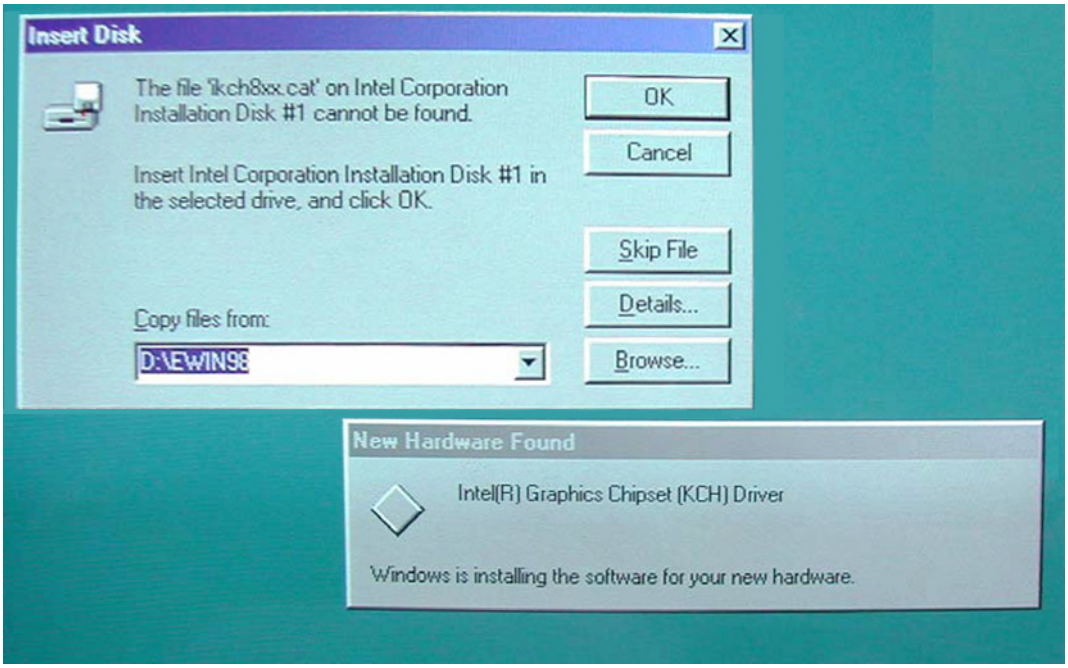
system will ask you to reboot the computer. During the installation process, it will appear the pop up window as following.

3. **Please press ok and it will appear the pop up window as following.**


Insert Disk
The file 'ikch8xx.cat' on Intel Corporation Installation Disk #1 cannot be found.
Insert Intel Corporation Installation Disk #1 in the selected drive, and click OK.
Copy files from:
D:\EWIN98
OK
Cancel
Skip File
Details...
Browse...
New Hardware Found
Intel(R) Graphics Chipset (KCH) Driver
Windows is installing the software for your new hardware.

4. **Please change the path to the installation folder and search for the two files named as ikch8xx.cat and isb8xx.cat.**

2. A driver installation screen will appear, please follow the onscreen instructions to install the driver in sequence and click on the Next button.

Notice: In some cases the system will ask you to insert

Windows 98 CD ROM and key in its path. Then click on the OK button to key in path.

3. Click on the **Finish** button to finish installation process. And allow the system to reboot.
4. The LCD signal may be turned off automatically after the VGA driver is installed, please press "Ctrl+Alt+F3" to enable LCD signal again.

LAN Driver Installation

We strongly recommend that you shall not install LAN driver by clicking on Autorun Exe. Please follow the steps in order to finish the process of installation.

1. Click on **Start** button → **Settings** → **Control Panel** → **System**
2. Select **Device Manager** under the **Hardware** category.
3. Double click on the **Ethernet controller** and select **update Driver** button under the **Driver** category.
4. Click **Next** twice and click the **Specify a location** option.
5. Click **Next** and choose a route where you want place the folders on before you click on **open**.
6. Click **Next** → **Yes** → **Finish** and the window will show you how to finish the installation process.

Note: We strongly recommend that you shall not install LAN driver by clicking on Autorun. Exe.

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Card Reader Driver Installation

1. Enter **Driver → System → FPC 1502 & FPC 1702 Series → Step 6 Card Readers Driver** folder.
2. Double click on the **Setup exe.** file.
3. Language setting: Choose the highlighted item below to operate your system in English.
4. Follow the instruction that the window will show to finish the installation.

Touch screen Driver Installation

1. Enter **Driver → System → FPC 1502 & FPC 1702 Series → Step 7 Touch screen Driver** folder.
2. Double click on the **Setup exe.** file.

Touch screen Driver installation Guide won' t be explained in this section. You can read the detailed touch screen driver Guide in the folder of touch screen driver.

Limitations

- The limitations you may need to notice when you start to install the driver. For the sake of USB4 and USB5 community of linkage, the card reader must be forced to disable when the users "disable" front USB port.
- For the sake of the bugs of card reader driver, two useless disk drives will appear: XD and Flash after installing drivers successfully. Please ignore the two useless disk drives.

Intentionally Blank

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Product Service

Diagnosis and Debug

CyberResearch, Inc. maintains technical support lines staffed by experienced Applications Engineers and Technicians. There is no charge to call and we will return your call promptly if it is received while our lines are busy. Most problems encountered with data acquisition products can be solved over the phone. Signal connections and programming are the two most common sources of difficulty. CyberResearch support personnel can help you solve these problems, especially if you are prepared for the call.

To ensure your call's overall success and expediency:

1) Have the phone close to the PC so you can conveniently and quickly take action that the Applications Engineer might suggest.
2) Be prepared to open your PC, remove boards, report back-switch or jumper settings, and possibly change settings before reinstalling the modules.
3) Have a volt meter handy to take measurements of the signals you are trying to measure as well as the signals on the board, module, or power supply.
4) Isolate problem areas that are not working as you expected.
5) Have the source code to the program you are having trouble with available so that preceding and prerequisite modes can be referenced and discussed.
6) Have the manual at hand. Also have the product's utility disks and any other relevant disks nearby so programs and version numbers can be checked.

Preparation will facilitate the diagnosis procedure, save you time, and avoid repeated calls. Here are a few preliminary actions you can take before you call which may solve some of the more common problems:

1) Check the PC-bus power and any power supply signals.
2) Check the voltage level of the signal between SIGNAL HIGH and SIGNAL LOW, or SIGNAL+ and SIGNAL– . It CANNOT exceed the full scale range of the board.
3) Check the other boards in your PC or modules on the network for address and interrupt conflicts.
4) Refer to the example programs as a baseline for comparing code.

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Warranty Notice

CyberResearch, Inc. warrants that this equipment as furnished will be free from defects in material and workmanship for a period of one year from the confirmed date of purchase by the original buyer and that upon written notice of any such defect, CyberResearch, Inc. will, at its option, repair or replace the defective item under the terms of this warranty, subject to the provisions and specific exclusions listed herein.

This warranty shall not apply to equipment that has been previously repaired or altered outside our plant in any way which may, in the judgment of the manufacturer, affect its reliability. Nor will it apply if the equipment has been used in a manner exceeding or inconsistent with its specifications or if the serial number has been removed.

CyberResearch, Inc. does not assume any liability for consequential damages as a result from our products uses, and in any event our liability shall not exceed the original selling price of the equipment.

The equipment warranty shall constitute the sole and exclusive remedy of any Buyer of Seller equipment and the sole and exclusive liability of the Seller, its successors or assigns, in connection with equipment purchased and in lieu of all other warranties expressed implied or statutory, including, but not limited to, any implied warranty of merchant ability or fitness and all other obligations or liabilities of seller, its successors or assigns.

The equipment must be returned postage prepaid. Package it securely and insure it. You will be charged for parts and labor if the warranty period has expired.

Returns and RMAs

If a CyberResearch product has been diagnosed as being non-functional, is visibly damaged, or must be returned for any other reason, please call for an assigned RMA number. The RMA number is a key piece of information that lets us track and process returned merchandise with the fastest possible turnaround time.

PLEASE CALL FOR AN RMA NUMBER!

Packages returned without an RMA number will be refused!

In most cases, a returned package will be refused at the receiving dock if its contents are not known. The RMA number allows us to reference the history of returned products and determine if they are meeting your application's requirements. When you call customer service for your RMA number, you will be asked to provide information about the product you are returning, your address, and a contact person at your organization.

Please make sure that the RMA number is prominently displayed on the outside of the box.

• Thank You •

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